Stream Line

City of Indianapolis / Department of Public Works / Clean Stream Program

FALL 2003 | ISSUE 1

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Statement Of Purpose

The Indianapolis Clean Stream Team is overseeing more than 50 projects to keep raw sewage out of our waterways and improve the quality of life in our neighborhoods. Stream Line is published quarterly to keep you informed about the city's progress in reducing raw sewage overflows and restoring the health of our streams.

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INDIANAPOLIS
CLEAN STREAM TEAM

LABOR DAY FLOOD HIGHLIGHTS SEWER NEEDS

DPW crews work overtime to respond to rising waters

No combined storm and sanitary sewer system could have handled Labor Day's record rainfall, but the Sept. 1 deluge did raise public awareness of the shortcomings of the city's century-old system.

Newspaper, television and radio accounts of the flood included news of raw sewage overflows and the need for people to stay away from contaminated floodwaters.

"The storms that saturated Indianapolis on September 1 only underscored the need to upgrade our sanitary and storm sewer systems," said Barbara Lawrence, director of the Department of Public Works. "Raw sewage spilling into our streams is a decades-old problem that we're now taking action to resolve."

DPW's Mark Richards collects data from a water-quality monitor on the 16th Street bridge over the White River following the flood.

Photo by Charlie Nye, courtesy of The Indianapolis Star

Several days of rain, including a record-breaking 7.2 inches on Labor Day, tested the mettle of DPW employees, who also have battled record snowfall and a tornado in the past year. Lawrence praised the work of the department's employees who interrupted their three-day holiday weekend to post street closing signs, staff hotlines, and monitor the condition of levees and bridges.

"Our city's system of storm drains, levees and sewers is comparable to many other urban communities," Lawrence said. "Although there's work to be done to upgrade our system, I am proud of the things we were able to accomplish during the flooding."

Each of the city's levees held back the rising waters as they were designed. A $12.5 million flood basin completed on Pogues Run last year prevented more than 200 million gallons of water from flooding parts of the eastside and downtown.

In the days following the storm, DPW crews worked 12- to 16-hour shifts to pump

(see "Flooding" page 4)

Project Will Help Clean Up Brookside Park

Thousands of gallons of raw sewage will be captured and kept out of Pogues Run in Brookside Park by early next year. Mayor Bart Peterson joined other community and civic leaders in June to break ground on an inflatable dam that will significantly reduce raw sewage overflows in the park.

The inflatable dam is similar to a large balloon. When excess runoff comes into the pipe, the dam will expand to contain it. When flow in the sewer system recedes, the wastewater is directed to the city's treatment plants.

The dam has been installed inside one of Brookside Park's largest sewage outfalls. Nestled inside a 90-inch pipe, the dam can hold up to 500,000 gallons of raw sewage and debris that would otherwise flow untreated into the stream with each rainfall.

(see "Brookside" page 3)

From the Director...

Barbara Lawrence
Director of Public Works

Welcome to the first edition of Stream Line! This quarterly newsletter is designed to keep you informed of the city's progress in reducing raw sewage overflows and restoring the health of neighborhood streams and the White River.

Raw sewage spilling into our streams is a serious problem that we have begun to address. As in many cities around the country, Indianapolis' antiquated sewers can no longer handle the sewage and rainwater that flow through them. Raw sewage in our streams is a health hazard, smells and looks disgusting, hurts our environment and harms our economy and the quality of life in our neighborhoods.

The Department of Public Works is working with state and federal regulatory agencies on a plan to reduce these overflows. This plan, worth $1 billion, will represent the single largest investment in clean water in the city's history.

But even as we negotiate with regulatory agencies, DPW is moving forward on more than 50 projects to start cleaning our streams and protecting public health. These projects are managed by the Indianapolis Clean Stream Team, a group of city staff and consultants working together to reduce raw sewage overflows.

I hope you use Stream Line to stay informed and involved in the important work of the Clean Stream Team. I encourage you to give us feedback on what you read in these pages. We look forward to hearing from you.

Barbara A. Lawrence

City Tests Wet Weather Treatment Technologies

Ana Johnston adjusts controls on one of the wet-weather treatment units being pilot-tested at the Belmont treatment plant.

During wet weather, the city faces a significant challenge in handling flows reaching the Belmont Advanced Wastewater Treatment Plant.

Since May 2003, engineers and operators have been testing wet weather treatment technologies in side-by-side trials to confirm their effectiveness in reducing sewage overflows from the plant under varying conditions. The technologies are especially designed to quickly treat high-rate flows and pollutants.

"These technologies have the potential to save the city hundreds of millions of dollars over conventional treatment while meeting water quality goals," said Carlton Ray, DPW Administrator for Environmental Engineering. Results of the studies will be available next spring.

Shotcrete Used to Restore Sewers

The city is giving new life to 100-year-old brick and reinforced concrete pipe sewers under Michigan Street by using shotcrete, a spray-on concrete mixture.

The shotcrete is sprayed onto the existing pipe wall after the pipe has been cleaned and steel mesh or bars have been added as reinforcement. After the shotcrete dries and cures, the rehabilitated sewer is stronger than the original sewer.

Shotcrete is less expensive than building a new sewer, and much less disruptive to the streets above. "By applying shotcrete, we can extend the life of these sewers by at least 50 years," said Mike Hill, the city's project manager.

Shotcrete can add life to older sewers at less cost and less disruption than building new sewers.

Plants to Receive Electrical Upgrade

Both the Belmont and Southport wastewater treatment plants are receiving plant-wide electrical upgrades and repairs under a $5 million project expected to start construction before year's end.

The project will replace aging electrical switchgear, transformers, motor control centers and electrical enclosures that keep the plants running and improving water quality. "This project will improve the reliability of the electrical systems at both treatment plants," said Tricia Banta, the city's project manager.

Team WET Schools Coming to Indianapolis

As part of the Clean Stream Team's education initiative, three Indianapolis middle schools have agreed to participate in an exciting water education program, Team WET Schools. Harshman, John Marshall and McFarland middle schools will be the first Team WET Schools in the Midwest.

Developed by the Council for Environmental Education in Houston, the program will work with teachers to incorporate urban water education into science, social studies, history and other subjects. The activities promote learning about a range of water issues, from ecology and pollution prevention to wastewater treatment and water stewardship. During the 2003-4 school year, each school will also launch a student-driven stewardship project. For more information, contact the Clean Stream Team at 327-8720.

Brookside (continued from page 1)

Mayor Bart Peterson, (left), City-County Councillor John Bainbridge, NESCO President Josh Bowling, and DPW Director Barbara Lawrence helped break ground earlier this year for an inflatable dam along Pogues Run. The dam will greatly reduce raw sewage overflows in Brookside Park.

"This project means better water quality for those who live on the eastside," Mayor Peterson said. "It's simply unacceptable to have raw sewage overflows in a community park that draws parents and children."

Inflatable dams provide "in-line" storage that helps save money by using existing sewer lines to contain and reduce raw sewage overflows. Other projects will be required in the future to reduce overflows even further along Pogues Run.

"Pogues Run flows through the near eastside through three of our parks and through our high school," said Josh Bowling, President of the Near Eastside Community Organization. "We're very excited this project is underway and we'll be excited when it gets finished."

As the installation of the dam concludes, workers are busy completing final construction. The area will be landscaped in early spring.

The Department of Public Works has worked on six similar projects elsewhere in the community. Together, these projects will prevent up to 5 million gallons of raw sewage overflows every time it rains.

The Brookside Park project complements other activities underway to clean up Pogues Run. Three other sewage overflow points upstream of the park already have been eliminated or greatly reduced.

"Each of these projects fits into the mayor's goal of creating a world-class city," said DPW Director Barbara A. Lawrence. "One way we accomplish that goal is by taking care of our neighborhoods and environment, and eliminating these disgusting overflows in our streams."

Other In-line Storage Projects

Inflatable dams, pinch valves and other mechanisms prevent sewage overflows by holding flows inside existing pipes until the storm subsides. In addition to the Brookside Park inflatable dam, the city has other in-line storage projects completed or underway in the following locations:

- Pleasant Run at Ellenberger Park
- Pleasant Run near Howe Middle School
- White River at West Street
- White River at 10th Street
- McCarty & Meilke streets near White River
- Fall Creek between 32nd and 34th streets, as well as at Illinois Street (four dams)

Flooding (continued from page 1)

water from streets, clean storm drains, remove debris and hand out sandbags, along with other emergency activities.

Crews brought in equipment from Chicago to pump water from Fall Creek Parkway south of 38th Street, reopening the waterlogged street to morning commuters on September 3.

The onslaught of water overburdened the city's sewer system, causing more than 350 million gallons of raw sewage and stormwater to overflow into area waterways. However, the city's two wastewater treatment plants – Belmont and Southport – worked at full capacity for several days, successfully treating more than 500 million gallons of raw sewage and stormwater per day.

"Our systems performed remarkably well given the conditions we faced," added Mario Mazza, Administrator of Water Management Services. "We saw no failures in our wastewater lift stations, our levees, or our treatment plants."

DPW crews also removed eight tons of trees over a two-day period from an area near 10th Street and Pogues Run. The engineering division felt the trees might cause structural damage to a bridge at the site.

Reminded of the damage rising floodwaters can cause, the city is moving forward with dozens of projects to reduce raw sewage overflows and control stormwater. Even with those projects in place, however, the Labor Day storm would have overwhelmed the system.

"No city can afford to prevent damage from a storm of that size, and that's not our goal," Lawrence said. "However, we are moving forward to make sure our infrastructure is better prepared to manage the more frequent, non-historical storms today and in the future. At the Department of Public Works, meeting that goal is both our daily challenge and our long-term commitment."

The Labor Day rainfall caused flooding at many homes and businesses, such as this location at Fall Creek Parkway and Emerson Way.

National Guardsmen assisted city staff by creating hundreds of sandbags that were made available to home and business owners to hold back rainwater.

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